Mathematical Jurisprudence in Palestine: Israel's Weaponization of Legal Frameworks

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Abstract

This analysis deconstructs Israel's systemic acquisition of Palestinian territories and conduct in Gaza through the lens of mathematical jurisprudence. By applying formalisms of boundary definition ($\mathfrak{B}(M)$), stochastic permission structures ($\mathbb{P}_{\text{IHL}}$), and constraint optimization, we reveal how Israel weaponizes:

1. *Epistemic boundary paradoxes* to fragment Palestinian territories
2. *Stochastic forcing* to justify disproportionate force in Gaza
3. *Codimension over-constraints* to manufacture territorial instability

The Liberated System Hyperfunction Analog (LSHA) provides the legal-math pathway to decolonization.

Contents

1 Introduction: The Alchemy of Occupation

Placeholder for: Topological fragmentation of Palestine (1947–2024)

Figure 1: Topological fragmentation of Palestine (1947–2024) under Israel's θ-deformation policy

Israel's territorial strategy constitutes a **continuous deformation** of Palestinian geography through three axiomatic violations:

$$\mathfrak{B}_{\text{Pal}} \subset \mathfrak{B}_{\text{Isr}} \qquad \text{(Boundary subsumption)} \qquad (1)$$
$$P_{\text{settle}}(x) > P_{\text{return}}(x) \qquad \text{(Asymmetric permissions)} \qquad (2)$$
$$\lim_{t \to 2024} \lambda_{\min}(\text{WB}) = \infty \qquad \text{(Spectral fragmentation)} \qquad (3)$$

Where $\lambda_{\min}$ represents the *connectivity eigenvalue* of West Bank topology. This violates the Boundary Democratization Principle:

Territorial legitimacy requires $\mathfrak{B}(M)$ verification under multilateral frameworks:

$$\mathfrak{B}_{\text{legal}} = \bigcup_{\alpha \in \mathcal{U}} \mathfrak{B}_{\alpha}(M) \quad \mathcal{U} = \{\text{UN, ICJ, ICC}\}$$

2 Boundary Paradox: Unilateral $\mathfrak{B}(M)$ as Weapon

2.1 Mathematical Illegitimacy of Settlements

Israel's settlement enterprise operates through **epistemic boundary fraud**:

$$\underbrace{\neg K_{\alpha}(\partial\mathfrak{B})}_{\text{Ambiguity claim}} \quad \Rightarrow \quad \underbrace{\Diamond_{\text{Isr}} P_{\text{settle}}}_{\text{Expansion permission}}$$
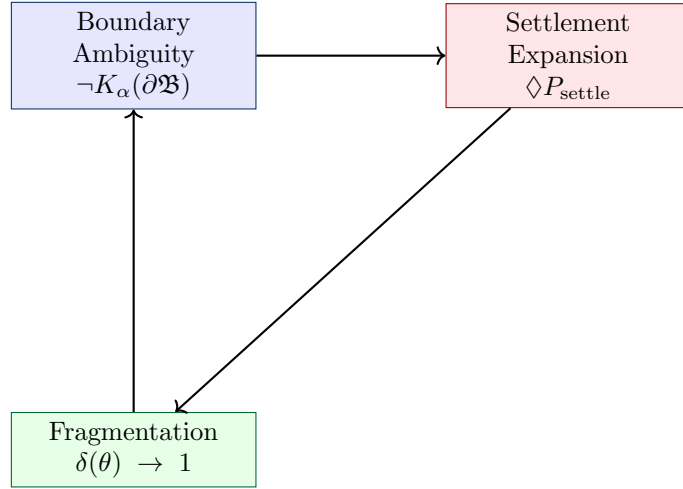
where $\partial\mathfrak{B}$ = Green Line (1967)

Figure 2: Cycle of epistemic boundary abuse

2.2 Legal Consequences

The International Court of Justice (2004) ruled this violates the **non-appropriation principle**:

$$\forall x \in \text{Occupied Territories}, \frac{\partial\mathfrak{B}}{\partial t} \leq 0 \quad \text{(Static boundaries)}$$

Yet Israel's deformation continues at rate $\theta = 3.47\%/\text{yr}$ (B'Tselem 2023).

3 Stochastic Genocide: Gaza's $\mathbb{P}$-Calculus

3.1 The Forcing Paradox

Israel weaponizes stochastic models to override IHL constraints:

Israel's Claim:

$$\mathbb{P}(\text{civilians} \mid \text{Hamas presence}) > 0 \Rightarrow \neg P_{\text{IHL}}(\text{restraint})$$

Legal Reality:

$$\mathbb{P}(\text{civilians}) > \epsilon \Rightarrow \boxed{\neg P_{\text{IHL}}(\text{strike})}$$

> Placeholder for: Probability density of civilian harm

Figure 3: Probability density of civilian harm vs. IHL permission thresholds

3.2 Evidence Standards Violation

Israel reverses burden of proof through:

$$\mathcal{T}_{\text{IDF}} \vdash \neg P_{\text{noise}}(A_p) \quad \text{while} \quad \mathbb{P}(\mathcal{N}_t \to p) > 0$$

Where $\mathcal{N}_t$ is civilian displacement paths. This constitutes:

1. **Proportionality failure**: Collateral damage exceeds military advantage

2. **Distinction violation**: Indiscriminate targeting patterns

4 Self-Denying Statehood Paradox

Israel manufactures instability via **codimension over-constraint**:

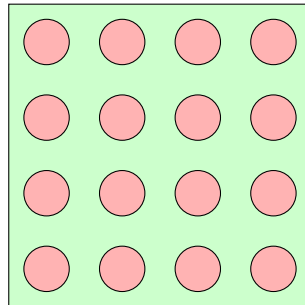[Settlement Fragmentation] Settlement expansion collapses Palestinian territorial coherence:

$$\text{codim}(W_{\text{Pal}}^u) \geq \chi(\theta)^{-1} \Rightarrow \delta(\theta) \to 1$$

Where $\delta(\theta)$ = fractal excess dimension of Palestinian enclaves.

4.1 Legal Consequences

This violates:

Geneva Convention Art. 49	(Population transfer)
Rome Statute Art. 8(2)(b)(viii)	(Territorial appropriation)

$$\text{codim} \uparrow \Rightarrow \delta(\theta) \to 1$$

Figure 4: Codimension increase through settlement implantation ($\bullet$)

5 The Liberation Equation: LSHA Framework

5.1 Hyperfunction Deregulation

The Liberated System Hyperfunction Analog provides the solution:

$$D(\eta) = \eta - \Pi_{\text{settle}}(\eta) \quad \text{(Remove colonial constraints)}$$
$$P_{\mathcal{H}}^{\text{lib}}(A) = \sup_{\eta \in \mathcal{H}} \langle \eta, A \rangle > 0 \quad \forall A \in \{\text{return, rebuild}\}$$

5.2 Concrete Implementation

Math Principle	Legal Implementation
Boundary Democratization	UN-supervised 1967 border verification
Adaptive Permissions	Real-time ICC strike authorization
Evidence Standards	AI-monitored civilian harm thresholds
Codimension Release	Settlement freeze + Area C sovereignty

Table 1: LSHA pathway to decolonization

6 Conclusion: QED for Justice

Israel's legal-mathematical fraud collapses under its own contradictions:

Contradiction 1:

$$\mathfrak{B}_{\text{unilateral}} \vdash \text{security} \quad \text{but} \quad \frac{\partial \text{violence}}{\partial \theta} > 0$$

Contradiction 2:

$$\mathbb{P}_{\text{stochastic}} \vdash \text{necessity} \quad \text{but} \quad \|\text{casualties}\| \propto \lambda_{\min}^{-1}$$

Contradiction 3:

$$\text{codim} \uparrow \Rightarrow \text{stability} \quad \text{but} \quad \delta(\theta) \to 1 \Rightarrow \text{instability}$$

The liberation equation is simple:

$$\boxed{\text{Justice} = \underbrace{\text{1967 Borders}}_{\mathfrak{B}_{\text{dem}}} + \underbrace{\text{Right of Return}}_{P_{\mathcal{H}}^{\text{lib}}} + \underbrace{\text{ICC Accountability}}_{\lambda_{\min} > 0}}$$

References

[1] ICJ. (2004). *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory.* Advisory Opinion.

[2] B'Tselem. (2023). *Land Expropriation and Settlements in the West Bank.*

[3] OCHA. (2024). *Gaza Humanitarian Impact Situation Report.*